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DEC 21 2007

Application No.: 10/535,035

Docket No.: JCLA12543

REMARKSDiscussion of Office Action Rejections under 35 U.S.C. 103

The Office Action rejected claims 1-7 under 35 U.S.C. 103(a), as being unpatentable over Liang et al. U.S. Patent 6,649,037 applied as obviousness.

This Office Action is made final, in which claims 1-7 are remained rejected. However, Applicants note that the Examiner has changed his position in relying on 35 U.S.C. 103(a) in rejecting claims 1 and 4, instead of 35 U.S.C. 102(e) as relied on in the previous Office Action.

Applicants have submitted that Liang fails to teach the limitation of "a filling ratio of anion exchanger to cation exchanger of the mixed ion exchanger in the concentrating compartments is higher than a filling ratio of anion exchanger to cation exchanger of the mixed ion exchanger in the desalting compartments" in the reply submitted Jun. 12, 2007. In response thereto, the Examiner contended in the "Response to Arguments" section of the current Office Action: "the reference further discloses the use of a bed having greater anion exchange resins provides the benefit of elevated pH (col. 9, lines 30-60; in particular lines 50-53)", and along which the Examiner further reasoned: "it would have been obvious to one having ordinary skill in the art ..., because the Liang patent teaches the use of the control of pH to obtain the separation of a variety of contaminants by the selection of appropriate ion exchange resin mixtures and ratios", and then concluded "therefore, the claims stand rejected".

Applicants respectfully disagree, and respectfully submit that Liang in fact fails to teach, disclose or suggest the limitation of "a filling ratio of anion exchanger to cation exchanger of the

Application No.: 10/535,035

Docket No.: JCLA12543

mixed ion exchanger in the concentrating compartments is higher than a filling ratio of anion exchanger to cation exchanger of the mixed ion exchanger in the desalting compartments". This limitation stresses the **difference of filling ratio** of anion exchanger to cation exchanger of the mixed ion exchanger existed **between concentrating compartments and desalting compartments** (Emphasis added).

First of all, the limitation being addressed is irrelevant to the reasoning given by the Examiner above. Even though Liang may have taught "the control of pH" and "the use of a bed having greater anion exchange resins provides the benefit of elevated pH" as assumed by the Examiner, he may at most suggest to use greater anion exchange resins, corresponding to "a higher filling ratio", in general with regard to the entire apparatus, rather than teaching a difference of filling ratio between the concentrating compartments and the desalting compartments.

Further, although, as contended by the Examiner, Liang has taught to control the pH, he discusses the control of pH only in a general manner without any preference. Liang teaches: "a pH of around 8, 9, 10, 6, 5, or 4 may be substantially maintained by passing the fluid through such a layer that may fill, for example, 1/4, 1/2 or an entire cell" (col. 9, lines 40-43). Please note, Liang reference is about to "provide for improved purification of water" (col. 1, lines 8-9). Purified water is well known to have a pH around 7. The example, i.e., a pH of around 8, 9, 10, 6, 5, or 4, given by Liang covers too wide a range of pH value, regarding to a water deionization apparatus. Similarly, Liang further teaches: "some molar ratios of anion/cation exchange materials that may be useful to maintain elevated pH's are 1.5:1, 2:1, 3:1, 4:1 and 10:1" and "the

Application No.: 10/535,035

Docket No.: JCLA12543

inverse of these ratios may be used to maintain a pH below neutral that may be preferred when weakly ionizable cationic species are to be removed" (col. 9, lines 50-55). These are evidence showing that Liang has predicted that both elevated pH and a pH below neutral may be preferred corresponding to different situations of the apparatus disclosed thereby. As such, anion/cation ratio of 1.5:1, 2:1, 3:1, 4:1 and 10:1 or inverse may be applicable with respect to Liang's apparatus. In this manner, Liang does not give any preference in realizing a higher anion/cation ratio in the concentrating compartments while realizing a lower anion/cation ratio in the desalting compartments.

For at least the foregoing reasons, applicant respectfully submits claim 1, as previously presented, patently define over the prior art references, and should be allowed.

Claims 2-7 depend on allowable independent claim 1, and thus should also be allowed.

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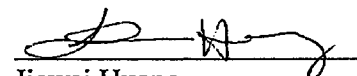
CONCLUSION

For at least the foregoing reasons, it is believed that the claims 1-7 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,  
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